

## **REMARKS**

### ***Overview***

In the Office Action under reply, claims 7, 9-12, 15-18, 20-27, and 30-39 were examined, claims 1-6 having been withdrawn and claims 8, 13-14, 19, and 28-29 having been canceled previously. Applicants acknowledge with appreciation the Examiner's withdrawal of the rejection under 35 U.S.C. § 102 from the previous Office Action. The claims stand rejected as follows:

(1) separate rejections under 35 U.S.C. §112, second paragraph, are set forth for the following groups of claims: claims 15-18 and 20-21; claim 27; and claims 24-26;

(2) separate rejections under 35 U.S.C. §112, first paragraph, are set forth for the following groups of claims: claims 7 and 9-12; claims 7, 9-12, and 37-39; and claims 22-27 and 30-36 are rejected under 35 U.S.C. §112, first paragraph; and

(3) claims 22 and 30-33 are rejected under 35 U.S.C. §103(a) as unpatentable over Urry et al. (1968), *J. Org. Chem.* 33(6):2302-2310 ("Urry").

The rejections are overcome in part by the amendments made herein, and are otherwise traversed for at least the reasons set forth below.

### ***Claim amendments***

With the amendment made herein, claim 15 is amended to correct dependency. No new matter is added by this amendment.

Claim 22 is amended to remove the option that R1 is hydrogen, as well as to remove the option that R2 is hydrogen. This amendment merely narrows the claim scope, and the amendment is supported by the original claim language. Claim 23 is amended to recite that the ring is alicyclic when any two of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, and R<sup>5</sup> are taken together to form a ring. This amendment is supported by the original claim language. No new matter is added by these amendments.

### ***Rejections under 35 U.S.C. §112, second paragraph***

Claims 15-18 and 20-21 stand rejected under 35 U.S.C. §112, second paragraph, as "indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention" (Action at page 2). The claims are rejected for being

improperly dependent upon a canceled base claim. With the amendment made herein, this rejection is moot.

Claims 27 is rejected for having the limitation "the olefinic reactant is selected from isobutylene..." since

[t]here is insufficient antecedent basis for this limitation in the claim. Dependency of claim 27 is traced back to claim 23, which requires an alicyclic group to be present in the olefin. Select compounds recited in claim 27 including isobutylene lack such a group.

(Action at 2.) This rejection is traversed. The Action asserts that claim 23 "requires" an alicyclic group, but this is not true. In fact, claim 23 (as amended) states that when any two of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , and  $R^5$  are taken together to form a ring, that ring is alicyclic. By the plain meaning of the claim language ("when" denotes the possibility, but not a requirement) claim 23 does not require that  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , and  $R^5$  are taken together to form an alicyclic group. The claim limits the type of cyclic group under the specified conditions. Isobutylene and other non-alicyclic compounds have antecedent basis in claim 22 (from which claim 27 ultimately depends), and claim 23 does not limit the scope of the antecedent basis to exclude such compounds. Accordingly, applicants respectfully request withdrawal of the rejection.

Similarly, claims 24-26 are rejected for depending from claim 23 yet having "limitations directed to definitions of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  where all of the above can be hydrogen or other non-ring forming substituents" (Action at 2). Again, claim 23 states that alicyclic groups are allowed, but not required. Accordingly, applicants respectfully request withdrawal of the rejection.

***First Rejection under 35 U.S.C. §112, first paragraph***

Claims 7 and 9-12 stand rejected under 35 U.S.C. §112, first paragraph, "as failing to comply with the written description requirement" (Action at 3). This rejection is traversed.

The Action states that the proviso requiring that  $R^6$  and  $R^7$  are different or taken together to form a ring when the olefinic reactant is not selected from a specific group is not described in the specification. The Action supports the rejection by noting that "[t]he examples provided use hexafluoroacetone and representative products on page 19 are obtained from a reaction of hexafluoroacetone" (*Id.*).

First, applicants point out that original claim 13 provides literal support for the phrase " $R^6$  and  $R^7$  are different or taken together to form a ring." As used in claim 13, the proviso refers

generally to all embodiments falling within the scope of claim 13. As used in currently-pending claim 7, the proviso refers to the subset of embodiments wherein the olefinic reactant is not pinene, butenyl methyl ether, isopropenyl methyl ether, *exo*-2-methylene norbornane, 5-vinyl-2-norbornene, *exo*-methylene cyclopentane, or *exo*-methylene cyclohexane. This subset of embodiments falls entirely within the scope of original claim 13. Accordingly, original claim 13 provides written description of the embodiments now encompassed by claim 7. See, e.g., MPEP § 2173.05(i) ("If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims," relying on *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) ("[the] specification, having described the whole, necessarily described the part remaining.")).

Second, apart from whether there is literal or inferential support for the proviso, applicants submit that the proviso merely narrows the scope of the original claim 7. Since each of the embodiments encompassed by original claim 7 are supported by sufficient written description, any subset of those embodiments (such as the subset defined by currently-pending claim 7) is also adequately described. Rather than including the proviso as currently set forth in the claims, applicants could (to the extent possible) include a claim to each and every specific embodiment encompassed by the claims. The proviso merely allows those embodiments to be described in a general manner, obviating the need for a great deal of claims each directed to one or a few embodiments.

***Second Rejection under 35 U.S.C. §112, first paragraph***

Claims 7, 9-12, and 37-39 stand rejected under 35 U.S.C. §112, first paragraph, "as failing to comply with the written description requirement" (Action at 3). This rejection is traversed.

The Action contends that the proviso pertaining to R<sup>6</sup> and R<sup>7</sup> being taken together to form a ring is not included in the definition of R<sup>6</sup> and R<sup>7</sup> on pages 20-21, and that the proviso therefore lacks written description. Although the definition on pages 20-21 for R<sup>6</sup> and R<sup>7</sup> does not specify that the groups may be taken together to form a ring, applicants direct the Examiner's attention to claim 13 as originally filed. The claim specifically states that R<sup>6</sup> and R<sup>7</sup> may be taken together to form a ring. It is well established that "The claims as filed in the original specification are part of the disclosure" (MPEP § 2163.06(III), citing *In re Benno*, 768 F.2d 1340, 226 USPQ 683 (Fed.

Cir. 1985)). The originally-filed claims may therefore be used to provide written description support for the proviso. Accordingly, applicants submit that the proviso in the rejected claims is fully supported by adequate written description, and respectfully request withdrawal of the rejection.

***Third Rejection under 35 U.S.C. §112, first paragraph***

Claims 7 and 9-12 stand rejected under 35 U.S.C. §112, first paragraph, "as failing to comply with the written description requirement" (Action at 3). This rejection is traversed.

The Action states:

[c]laims include a proviso where the fluorinated carbonyl compound is other than hexafluoroacetone or require the carbonyl compound to be asymmetric. Such a limitation has not been described in the specification. In fact, the examples provided in the specification are limited to those using hexafluoroacetone and representative alkene fluoroalkanol products depicted on page 19 are all obtained via reaction with hexafluoroacetone.

(Action at 4.) First, with respect to the assertion that the proviso is not described in the specification, applicants direct the Examiner's attention to paragraph [0055] of the original specification: "[t]he fluorinated carbonyl compound may be symmetrically or asymmetrically substituted, and in one embodiment excludes hexafluoroacetone." This statement provides literal support for the proviso at issue. In addition, claim 13 as originally filed specifically states that embodiments wherein R<sup>6</sup> and R<sup>7</sup> are different are encompassed within the scope of the claim. Thus, written description for asymmetric carbonyl compounds is also provided in original claim 13. Furthermore, hexafluoroacetone is only one embodiment encompassed by claim 7 as originally filed, and the proviso merely narrows the scope of the claim to exclude ketones such as hexafluoroacetone under certain circumstances. Since the scope of the originally filed claims is supported by adequate written description, so too is the narrowed scope of the pending claims. For all of the foregoing reasons, and especially because of the disclosure in paragraph [0055] and original claim 13, the proviso is supported by adequate written description.

Second, with respect to the scope of written description provided by the examples and representative products disclosed in the specification, the written description requirement may be satisfied in a number of different ways:

...the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991)... Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for

patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.

(MPEP §2163.02 emphases added.) The presence of working examples or actual experimental details is clearly not a prerequisite to establishing sufficient written description, as long as the skilled artisan would recognize that applicants were in possession of the invention as claimed. The experimental examples provided in the specification must be considered in light of all other portions of the specification in order to determine the scope of material that is supported by adequate written description. For example, applicants direct the Examiner's attention to paragraph [0053] of the original specification, which states that: "[e]xemplary -CR<sup>6A</sup>R<sup>7A</sup>-OH groups thus include -CH(CF<sub>3</sub>)-OH, -C(CH<sub>3</sub>)(CF<sub>3</sub>)-OH, -C(CF<sub>3</sub>)(CF<sub>3</sub>)-OH, -CH(CHF<sub>2</sub>)-OH, -C(CH<sub>3</sub>)(CHF<sub>2</sub>)-OH, -C(CF<sub>3</sub>)(CHF<sub>2</sub>)-OH, -CH(CH<sub>2</sub>F)-OH, -C(CH<sub>3</sub>)(CH<sub>2</sub>F)-OH, -C(CF<sub>3</sub>)(CH<sub>2</sub>F)-OH, and -C(CF<sub>2</sub>H)(CH<sub>2</sub>F)-OH." Bearing in mind that R<sup>6A</sup> and R<sup>7A</sup> in the reaction products are derived from R<sup>6</sup> and R<sup>7</sup> in the fluorinated ketone reactant as described in the disclosure, the skilled artisan would understand that the specification contemplated many fluorinated ketones other than hexafluoroacetone. From this statement in the specification, along with original claim 13 (describing that the fluorinated ketone may be asymmetric), the skilled artisan would recognize that applicants were in possession of claims which exclude hexafluoroacetone and symmetric fluorinated ketones.

Accordingly, the original specification supports the pending claims including provisos, and applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §103(a)***

Claims 22 and 30-33 stand rejected under 35 U.S.C. §103(a) as unpatentable over Urry. This rejection is traversed.

The Action states that

2-methyl-butene is an olefin reagent included in the scope of claim 22. This reactant is obvious over 2-methylpropene disclosed by Urry et al. The difference between the two reagents is one CH<sub>2</sub> moiety and the two are considered analogous. 2- methylbutene is expected to react in the same way as 2-methylpropene in a carbonyl addition reaction and is therefore obvious over Urry et al. absent unexpected results.

(Action at 5.) Applicants have amended claim 22 such that neither R<sup>1</sup> nor R<sup>2</sup> may be hydrogen. The amended claim is therefore directed to a method involving an olefin directly substituted by a secondary carbon atom - i.e., a CHR<sup>1</sup>R<sup>2</sup> group, wherein neither R<sup>1</sup> nor R<sup>2</sup> is hydrogen. Such

compounds are non-obvious over the teachings of Urry. The Action asserts that it would be obvious to use a homologous analog (i.e., 2-methylbutene in place of 2-methylpropene) in the reactions of Urry. Even if this were true, it is not obvious to use a di-substituted starting material such as those of the pending claims. This is so for a number of reasons. For example, there are literally thousands of modifications to the teachings of Urry that could be envisioned by the skilled artisan. Adding substituents of the particular type and in the particular location that would lead to the compounds of the amended claims would require guidance that is not present in Urry.


With the amendment set forth herein, applicants submit that the pending claims are not obvious over Urry. Withdrawal of the rejection is respectfully requested.

**CONCLUSION**

Applicants submit that the claims of the application are in condition for allowance. Applicants respectfully request withdrawal of the rejections, and prompt issuance of a notice of allowance. If the Examiner has any questions concerning this communication, or would like to discuss the application, the art, or other pertinent matters, a telephone call to the undersigned would be welcomed.

Respectfully submitted,

By:

  
Isaac M. Rutenberg  
Registration No. 57,419  
c/o MINTZ LEVIN  
1400 Page Mill Road  
Palo Alto, California 94304-1124  
(650) 251-7700 Telephone  
(650) 251-7739 Facsimile  
**Customer No. 23980**